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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,801	11/15/2001	Kristian E. Johnsgard	14912.832	5951

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EXAMINER

FASTOVSKY, LEONID M

ART UNIT PAPER NUMBER

3742

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/998,801	Applicant(s) JOHNSGARD ET AL.	
	Examiner Leonid M Fastovsky	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15-17, 19-23, 27, and 36-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Muguresh (5,994,662).

Muguresh discloses a resistive heater for heating a wafer (Fig. 1-18) comprising a substrate-susceptor support assembly 230 (Fig. 11), a doped ceramic heating element embedded in an undoped monolithic plate of ceramic 232 (Abstract, col. 1, lines 5-10, col. 14, lines 40-67).

As for claims 20-21 and 27, Mugaresh discloses lift pinholes 240 for support of the susceptor 230.

As for claims 39-42, the heating element 232 is non-linear having a round shape and also has a second heating element 234 forming a non-linear trace, and the heating surface 238 is parallel to the heating element 232.

As for claims 44-46, the heating element 232 is forming a trace having a plurality of adjacent segment 234 on the left and on the right.

As for claim 47, the heating element 232 is embedded within the susceptor 230.

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As for claims 48-52, the first heating element 232 and the second heating element 234 are spaced apart from each other, and the undoped ceramic material is forming a continuous surface between the heating elements.

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murugesh in view of Friese .

Murugesh teaches substantially the claimed feature, but does not specify the concentration of nitrogen in the doped ceramic heating element. Friese teaches a concentration between 2800 ppm and 1300 ppm. It would have been obvious to one having ordinary skill in the art to use the concentration of nitrogen in the heating element to maintain sufficient density of the ceramic heater, as taught by Friese.

4. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muguresh in view of Hierholzer, Jr. et al.

Muguresh teaches substantially the claimed features, but does not teach that the ceramic heater comprises at least one of boron nitride, boron, arsenic, antimony and phosphorus. Hierholzer teaches a doped ceramic heater comprising boron, phosphorous, arsenic or antimony (Col. 5, lines 36-49). It would have been obvious to one having ordinary skill in the art to use boron or arsenic or phosphorous for use as a doping material in order to lower the resistivity of the ceramic as taught by Hierholzer, Jr,

5. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muguresh in view of Kahn et al.

Muguresh teaches substantially the claimed features including a thickness of the heater in a range of 0.05 inch, but does not teach a resistivity range. Kahn teaches a ceramic

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actuator with an inherent heating capability because of its resistivity and current carrying use (Col. 3, lines 45-48), with a first region of lower resistivity in contact with a second region of higher resistivity. It would have been obvious to one having ordinary skill in the art to increase a thickness of the heater from about 0.1 to about 0.3 inch as a matter of design choice, and to set the resistivity of the doped heating element from about 2 to about 5 orders of magnitude less than the resistivity of undoped heating element as suggested by Kahn, as a matter of design choice.

Response to Arguments

6. Applicant's arguments with respect to claims 15-52 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tu Ba Hoang
Primary Examiner

Imf



Leonid M Fastovsky
Examiner
Art Unit 3742

4/13/05